

Mineral Production in Iowa

by Robert M. McKay

Lead and Zinc: Indians and French voyageurs were probably the first to extract the heavy, metallic-gray lead ores in the Dubuque area along the Upper Mississippi River valley sometime prior to 1650. They began a lengthy period of mining lead and zinc ores that peaked between 1830 and 1860. The last of the Dubuque area mines closed in 1910.

Iron: Iron ore from the Waukon area in Allamakee County is the only other metallic mineral ever commercially mined in Iowa. The Iron Hill deposit was explored in the 1870's and was first mined in 1899. Operations were suspended in 1901 until the Missouri Iron Company of St. Louis acquired the deposit in 1906, and an ore beneficiation plant was built which sporadically produced and shipped ore concentrate until 1918.

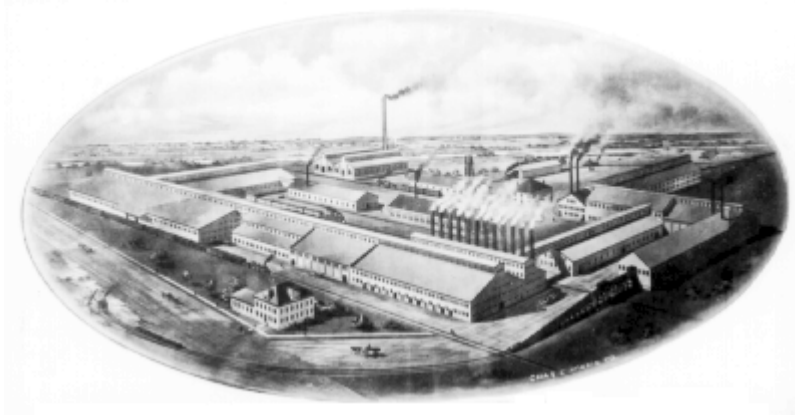


Kilns, sheds, and neat stacks of finished clay products are shown at the Iowa Pipe and Tile Company plant in Des Moines about 1896.

Photo courtesy of Calvin Collection, The University of Iowa.

Clay: In 1900 there were 381 clay-products companies operating in 89 counties. Clay was mined from shale bedrock, river alluvium, and glacial drift and turned into drain and sewer tile as well as several grades of brick. By 1920 Iowa was the leading producer of drain tile. By 1938, however, the number of active firms had dwindled to 12 plants in 8 counties. Today, only 3 firms in Dallas and Woodbury counties produce clay products, primarily facing brick.

Cement: Simple cements were produced by burning limestone or dolomite in kilns fired by wood, coal, or oil. Many small 19th-century towns had kilns that produced lime for mortar used by local builders. Engineers, architects, and builders preferred lime burned from Silurian-age dolomites in Cedar and Jackson counties. This lime was desirable because of the hardness and durability of its mortar and its slow setting time, giving masons and plasterers longer to work. The dominance of these cements was preempted by the rapid acceptance of a new cementing product -- Portland cement.



The Northwestern States Portland Cement Co. in Mason City is shown in this turn-of-the-century illustration.

Photo courtesy of the State Historical Society of Iowa.

Portland cement: The ability of Portland cement to harden under water and its finished strength make it a superior cementing product. By 1928, Iowa was in the midst of an extensive road building program, which involved constructing cement culverts and bridges as well as paving miles of roads. Industry output peaked in 1973 and remained brisk through 1979. Today four plants operate in Cerro Gordo, Polk, and Scott counties accounting for about 37% of the total value of mineral production in Iowa.



The Bealer Quarries in Cedar County were famous for their mechanization and output of stone for bridge abutments and piers (ca.1900).

Photo courtesy of Calvin Collection, The University of Iowa.

Stone: Many of Iowa's 19th-century bridges and buildings were built of limestone in towns along major rivers, where rock exposures were common. The growth of railroads, the need for improved highways, and the increased use of ag-lime required sources of crushed stone. Prominent production districts included Cedar, Jones, Des Moines, Marshall, Lee, Madison, Jackson, and Scott counties. By 1982 the value of crushed stone surpassed cement and became the leading mineral commodity, accounting for 41% of the state's total mineral value. By 1990 there were 460 registered quarry sites in Iowa.

Gypsum: Gypsum, one of the softest minerals known, was discovered in Iowa in the 1850's near Fort Dodge and quarried as building stone. It is best known today as the principal ingredient in the manufacture of wallboard or sheet-rock. Ground gypsum is also a component of Portland cement and is used as a soil conditioner. Current production is from four surface mines in Webster County and two underground mines in Des Moines and Marion counties.

Sand and Gravel: Sand and gravel constitute an important resource used in every Iowa county for maintenance of the gravel road system as well as for aggregate to be mixed into concrete. Most large dredge and dragline operations are located along Iowa's major stream valleys where these deposits were originally sorted and concentrated by stream flow.

Adapted from Iowa Geology 1992, No. 17, Centennial Edition, Iowa Department of Natural Resource